



Department : Mechanical Engineering		
Academic Year: 2022-23		
Sr. No.	Programme Code	Name of the Programme
01.	217	B.Tech Mechanical Engineering

Following students have carried out their Project work/ Internship/ Field Project/Industrial Training for the academic session 2022-23

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A PROJECT REPORT SUBMITTED AS A PART OF
VOCATIONAL TRAINING PROGRAM (VT2024)

to

NTPC Regional Learning Institute (RLI) Sipat

Different Types of Cooling Towers and their Function.





Project Report Submitted by -

VT-MECH-020-Anjali Kumari
Guru Ghasidas Central University Koni Bilaspur



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व्यावसायिक प्रशिक्षण प्रमाण पत्र - 2024

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Date: 18/07/2024


Nakka Ramesh
Sr. Manager (RLI)


Anshul Rajan Singh
Sr. Manager (RLI)


AK Tripathi
GM & Head (RLI-Simulator)



VOCATIONAL TRAINING ➤ REPORT ➤

Mechanical Engineering GGV, Bilaspur
MAY-JUNE 2024



by

Ashwani Sharma

VIIth Semester

21039110



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CERTIFICATE





Internship Project Report

On

**MATHEMATICAL MODELLING AND CONTROL OF
BIOMIMETIC AUTONOMOUS UNDERWATER VEHICLE**

Submitted to
DEPARTMENT OF ELECTRICAL ENGINEERING & AEROSPACE ENGINEERING

INDIAN INSTITUTE OF TECHNOLOGY

(IIT KHARAGPUR)

For

COMPLETION OF INTERNSHIP

Submitted by

AYUSH KUMAR

(BACHELOR OF TECHNOLOGY)

(Mechanical Engineering)

(PRN-20249907312625091)

Under the Guidance of

Prof. Aurobinda Routray

&

Dr. Sunil Manohar Dash



Department of Electrical Engineering &
Department of Aerospace Engineering
Indian Institute of Technology
Kharagpur-721302
15th May 2024 – 30th June 2024



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- Advantages of BAUVs
- Disadvantages of BAUVs

ABOUT THE PROJECT

- About BAUVs
- Forces Involved in BAUVs
- Types of Motion Involved in BAUVs
- Key Parts of BAUVs
- Diagram Representation

MATHEMATICAL MODELLING OF BAUVs

- Introduction
- Coordinate System
- Degree of Freedom(Dof)
- Kinematic Modelling
- Dynamic Modelling
- Flapping Propulsion Mechanism
- Combined Forces
- Model Architecture

RESULT

CONCLUSION

REFERENCE



Aurobinda Routray

Professor

Department of Electrical Engineering,

Indian Institute of Technology, Kharagpur, West Bengal -721302, **INDIA**

CERTIFICATE of INTERNSHIP

TO WHOM IT MAY CONCERN

This is to certify that **Mr. Ayush Kumar** (Reg No. 21039112), B.Tech. final year student from the Department of Mechanical Engineering, "Guru Ghasidas Vishwavidyalaya" has successfully completed 6 weeks (15.05.24 to 30.06.24) as an intern under my guidance in the Department of Electrical Engineering, Indian Institute of Technology Kharagpur. He has worked on the "**Kinematic and Dynamic Model of 6 DOF Biomimetic Autonomous Underwater Vehicle**". During the period of his internship programme he was found to be punctual, hardworking and inquisitive. I wish him every success in life.

Date: 25th June 2024

Aurobinda Routray



SUMMER TRAINING REPORT

**FOUR WEEKS INDUSTRIAL
TRAINING**

AT



SOUTH EAST CENTRAL RAILWAY, BILASPUR

(A UNIT OF INDIAN RAILWAY)

**SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD
OF DEGREE OF**

BACHELOR OF TECHNOLOGY

IN

MECHANICAL ENGINEERING

SUBMITTED BY:

Bhawana Agrawal

SUBMITTED TO:

SECR DRM OFFICE



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SOUTH EAST CENTRAL RAILWAY, BILASPUR



TO WHOM SO EVER IT MAY CONCERN

It is hereby certified that Ms. BHAWANA AGRAWAL student of "GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR, CHHATTISGARH [A Central University]" has undergone Vocational Training at BCN Depot and Coaching Depot in Mechanical Engineering Department of SECR, Bilaspur Division from 16.05.2024 to 14.06.2024.

During this period of training she was very active. She has taken keen interest during the training period and has performed excellently. We wish her all success in her future endeavors.



Sr. Divisional Mechanical Engineer
South East Central Railway, Bilaspur

श्री. प्रमुख यांत्रिक इंजीनियर (सम्पद)
श्री. प्रमुख यांत्रिक इंजीनियर (सम्पद)
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**SUMMER TRAINING REPORT ON
INDIAN RAILWAYS AT SOUTH EAST CENTRAL RAILWAY,
BILASPUR (C.G.)**



BY

**DIPANSHU JAISWAL
ROLL NO.-21039119**



BACHELOR OF TECHNOLOGY

IN

MECHANICAL ENGINEERING

**DEPARTMENT OF MECHANICAL ENGINEERING
SCHOOL OF STUDIES AND TECHNOLOGY, CHHATISHGARH
MAY-JUNE 2024**



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Sr. Divisional Mechanical Engineer
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Date: 14.06.2024
Place: Bilaspur (C.G.)



SUMMER INTERNSHIP REPORT

A Report Submitted in partial Fulfilment of the Requirements
For the Award of Degree of
Bachelor of Technology

In

Mechanical Engineering

By

HIMANSHU UPRELIYA

ENROLLMENT No: GGV/21/01725

ROLL No: 21039125

Under Supervision of



SEC, RAILWAY, BILASPUR

(Duration: 16 May, 2024 to 14 July, 2024)



DEPARTMENT OF MECHANICAL ENGINEERING
GURU GHASIDAS VISHWAVIDYALAYA
INSTITUTE OF TECHNOLOGY

(A Central University established by the Central Universities Act 2009 No. 25 of 2009)

Approved by AICETE

Bilaspur, Chhattisgarh

2021-2025



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- 12. COMPARISON BETWEEN ICF, LHB AND WAGONS**
- 13. CONCLUSION**



link in the Indian Railways network, connecting the eastern and western parts of the country.

Modern Condition of the South East Central Railway (SECR)

In recent years, the SECR has undergone significant modernization to meet the growing demands of passengers and freight customers. Bilaspur Railway Station, the headquarters of SECR, is set to receive a mega makeover worth ₹435 crore. This redevelopment project aims to transform the station into a modern transportation hub capable of handling future demands. The station will feature separate entry and exit routes, expanded waiting areas, and enhanced facilities for passengers.

The modernization plan includes the construction of new foot overbridges, installation of lifts and escalators, and the development of a commercial area within the station premises. Additionally, a solar energy plant and rainwater harvesting system will be installed to promote environmental sustainability. These upgrades are expected to significantly improve the passenger experience and operational efficiency at Bilaspur Railway Station.

The SECR zone has also been focusing on enhancing its freight operations. The addition of a fourth railway line between Bilaspur and Jharsuguda is expected to be operational by 2024, further boosting the zone's capacity to handle heavy freight movements. The zone's commitment to modernization and infrastructure development underscores its importance in the Indian Railways network and its role in driving regional economic growth.



SOUTH EAST CENTRAL RAILWAY, BILASPUR



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During this period of training he was very active. He has taken keen interest during the training period and has performed excellently. We wish him all success in his future endeavors.



Date: 16.05.2024
Place: Bilaspur (C.G.)


Sr. Divisional Mechanical Engineer
South East Central Railway, Bilaspur


Sr. Divl. Mech. Engineer (Co-ord)
Bilaspur



A
SEMINAR REPORT
ON
ASH DISPOSAL SYSTEMS AND
UTILIZATION IN POWER PLANTS
AT
NTPC SIPAT, Regional Learning Institute (RLI)



A Maharatna Company

BY
HRITHIK RAJ - 21039126



BACHELOR OF TECHNOLOGY
IN
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GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (Chhattisgarh)
Session 2024-2025



ACKNOWLEDGEMENT

I would like to thank Prof. T.V. Arjunan, Professor & Head, Department Of Mechanical Engineering, SOS (E&T) GGV Bilaspur and Mr. Bhushan Singh Gautam, the internship training coordinator for giving me the opportunity to do internship at the organisation.

I would like to thank NTPC, Sipat for giving us this opportunity to work on this project. I got to learn a lot about "ASH DISPOSAL SYSTEMS AND UTILIZATION IN POWER PLANTS" through this project.

I would like to express our special thanks of gratitude to Mr. Alok Kumar Tripathi, GM & Sr Faculty, NTPC, Regional Learning Institute (RLI) for his able guidance and support in completing our project. We would also wish to express our sincere gratitude to all the faculties who delivered informative lectures in webinars which helped us a lot to understand about the different aspects of the Power Industry.

Last but not the least, thanks to all executives and support team members of NTPC RLI Sipat for their constant support.

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Date: 18/07/2024


Nakka Ramesh
Sr. Manager (RLI)


Anshul Rajan Singh
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AK Tripathi
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Project Report as part of Vocational Training,
NTPC SIPAT
On the topic:

ASH DISPOSAL SYSTEMS AND UTILISATION IN POWER PLANTS

Submitted by VT-MECH2024-GR-18:

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SUMMER INTERNSHIP REPORT

A Report Submitted in partial Fulfilment of the Requirements
For the Award of Degree of
Bachelor of Technology

In

Mechanical Engineering

By

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ENROLLMENT No:
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Under Supervision of



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DEPARTMENT OF MECHANICAL
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INSTITUTE OF TECHNOLOGY

(A Central University established by the Central Universities Act 2009 No. 25 of 2009)

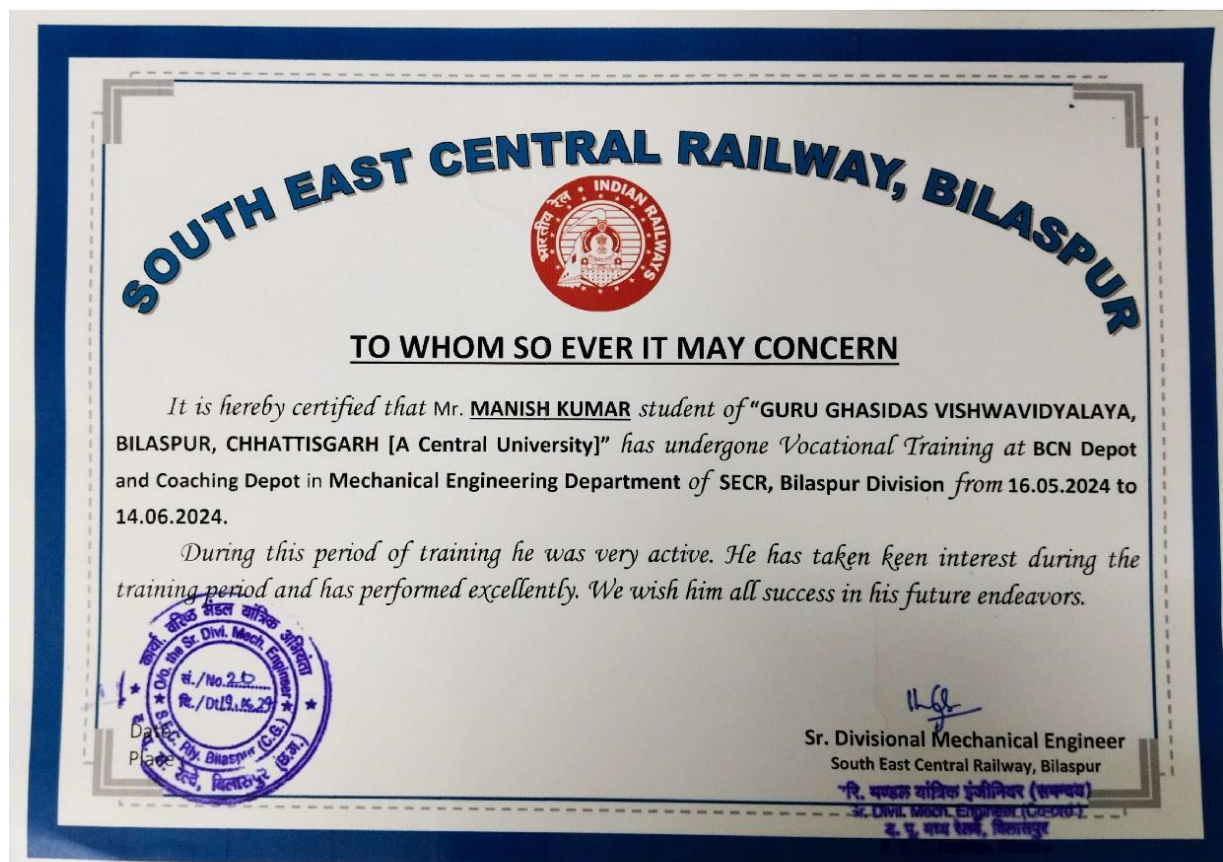
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13. CONCLUSION





**A PROJECT REPORT SUBMITTED AS A PART
OF VOCATIONAL TRAINING PROGRAM
(VT2024)**

To

**NTPC Regional Learning Institute (RLI)
Sipat**

Based On

**Different Types of Air Pre-Heaters In
Power Plants**





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Date: 18/07/2024


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Sr. Manager (RLI)


Anshul Rajan Singh
Sr. Manager (RLI)


AK Tripathi
GM & Head (RLI-Simulator)



HEATING VENTILATION AND AIR CONDITIONING

Internship report submitted as a part of the vocational training in SIEMENS REAL ESTATE and Management Department, SIEMENS LIMITED, KALWA, NAVI MUMBAI.

DEPARTMENT OF MECHANICAL ENGINEERING

Submitted By

ISARAPU NITISH

UNDER THE GUIDANCE OF

Sri. JEEVAN DOIFOIDE

Dr. Project MANAGER (MECHANICAL, SRE DEPARTMENT)

SIEMENS LIMITED , NAVI MUMBAI



DEPARTMENT OF MECHANICAL ENGINEERING

SCHOOL OF STUDIES OF ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA (A CENTRAL UNIVERSITY)

KONI, BILASPUR, CHATTISGARH



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SIEMENS

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TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Isarapu Nitish**, a bonafide student of **Guru Ghasidas Vishwavidyalaya, Chattisgarh** has undergone internship training in **Siemens Real Estate** department at Kalwa Works during the period 13.05.2024 to 28.06.2024.

We wish him success in all future endeavors.

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**A PROJECT REPORT SUBMITTED AS A PART
OF VOCATIONAL TRAINING PROGRAM
(VT2024)**

To
NTPC Regional Learning Institute (RLI)
Sipat
Based On
Different Types of Air Pre-Heaters In
Power Plants





PROJECT REPORT PRESENTED BY

- VT2024-MECH-139 – Noharika Patel
Guru Ghasidas University Koni Bilaspur



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Date: 18/07/2024


Nakka Ramesh
Sr. Manager (RLI)


Anshul Rajan Singh
Sr. Manager (RLI)


AK Tripathi
GM & Head (RLI-Simulator)



**A PROJECT REPORT SUBMITTED AS A PART
OF VOCATIONAL TRAINING PROGRAM
(VT2024)**

To
NTPC Regional Learning Institute (RLI)
Sipat
Based On
Different Types of Air Pre-Heaters In
Power Plants





PROJECT REPORT PRESENTED BY

- VT2024-MECH-139 - Prakriti Kurrey
Guru Ghasidas University Koni Bilaspur



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Sr. Manager (RLI)

Anshul Rajan Singh
Anshul Rajan Singh
Sr. Manager (RLI)

AK Tripathi
AK Tripathi
GM & Head (RLI-Simulator)



VOCATIONAL TRAINING ➤ REPORT ➤

Mechanical Engineering GGV, Bilaspur
MAY-JUNE 2024



by

Pranav Kumar

VIIth Semester

21039144



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- 9. References**



CERTIFICATE





SUMMER INTERNSHIP REPORT

A Report Submitted in partial Fulfilment of the Requirements
For the Award of Degree of
Bachelor of Technology

In

Mechanical Engineering

By

PRANSHU SONI

ENROLLMENT No:
GGV/21/01745 ROLL No:
21039145

Under Supervision of



SEC, RAILWAY, BILASPUR

(Duration: 16 July, 2021 to 14 July, 2024)



DEPARTMENT OF MECHANICAL
ENGINEERING GURU GHASIDAS
VISHWAVIDYALAYA
INSTITUTE OF TECHNOLOGY

(A Central University established by the Central Universities Act 2009 No. 25 of 2009)

Approved by

AICETE Bilaspur,
Chhattisgarh 2021-

2025

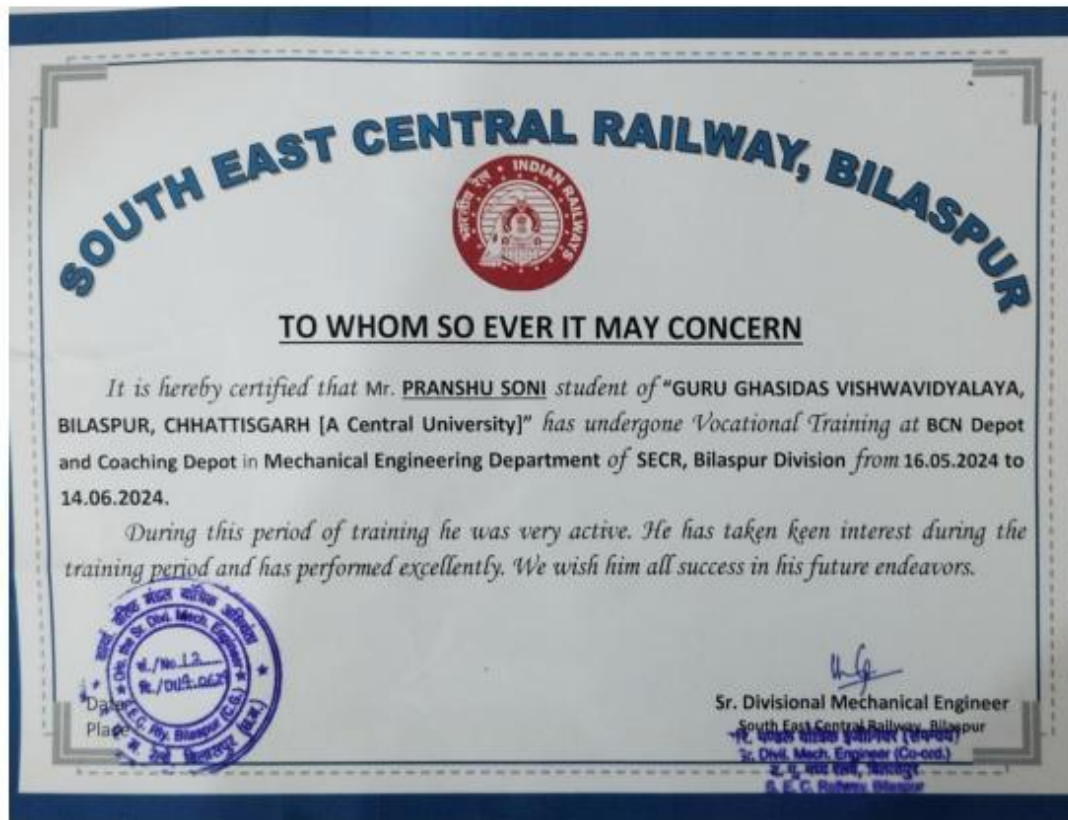


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CERTIFICATE





**SIMULATION-BASED ASSESSMENT OF TENSILE
STRENGTH IN MATERIALS
AT
NATIONAL INSTITUTE OF TECHNOLOGY, RAIPUR**

By
PUSHPENDRA VAISHNAV (21039146)
BACHELOR OF TECHNOLOGY
In
MECHANICAL ENGINEERING



**DEPARTMENT OF MECHANICAL ENGINEERING
GURU GHASIDAS VISHWAVIDYALAYA
BILASPUR
MAY-JUNE 2024**



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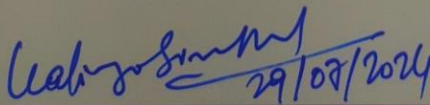


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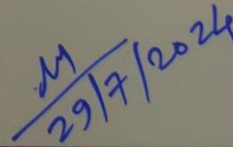
CERTIFICATE OF INTERNSHIP

This is to certify that **Mr. Pushpendra Vaishnav** of 6th semester Mechanical Engineering of Guru Ghasidas Vishwavidyalaya Bilaspur has undergone an internship from 15/05/2024 to 25/06/2024 on **SIMULATION-BASED ASSESSMENT OF TENSILE STRENGTH IN MATERIALS** at National Institute of Technology, Raipur.

His performance during the internship period has been satisfactory.


29/08/2024

Dr. Kalinga Simant Bal
Supervisor, Department of Mechanical
Engineering, NIT Raipur


29/7/2024

Prof. (Dr.) Shobha Lata Sinha
HOD, Department of Mechanical
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SUMMER TRAINING PROJECT REPORT
ON
BCN DEPOT AT SOUTH EAST CENTRAL
RAILWAYS , BILASPUR (C.G.)
Bachelor of Technology
In
Mechanical Engineering
(B.TECH 2021-25)

GURU GHASIDAS VISHWAVIDYALAYA ,
BILASPUR (C.G.)
(A CENTRAL UNIVERSITY)

SUBMITTED BY

RAJAN KUMAR



South East Central Railway
(Bilaspur)

SUBMITTED TO

H.O.D (MECHANICAL ENGINEERING)



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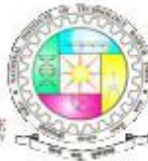
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3. WHEEL SPECIFICATION AND ITS DEFECTS
4. AIR BREAK SYSTEM
5. ULTRASONIC TESTING
6. CNC LATHE

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Project Report as part of Vocational Training,

NTPC SIPAT

On the topic

NO_x CONTROL SYSTEM IN POWER PLANT



Submitted by VT-MECH2024-GR-21:

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3.	Ravish Chandra S N Singh	National institute of Technology Raipur, Chhattisgarh	VT-MECH2024-164
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Date: 18/07/2024


Nakka Ramesh
Sr. Manager (RLI)


Anshul Rajan Singh
Sr. Manager (RLI)


AK Tripathi
GM & Head (RLI-Simulator)



**Guru Ghasidas Vishwavidyalaya,
Bilaspur**



A PROJECT REPORT SUBMITTED AS A PART OF VOCATIONAL TRAINING PROGRAM (VT2024)

TO

YBI FOUNDATION

BASED ON

Artificial Intelligence and Machine Learning

PROJECT REPORT PRESENTED BY

RAUSHAN KUMAR

(21039149)



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CONCEPT DEFINITIONS
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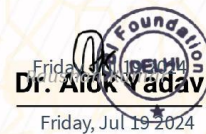
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Duration: 1 Month completed on Friday, Jul 19 2024

demonstrated exceptional dedication with strong willingness to learn and actively engaged in projects and tasks exhibiting remarkable skills with high level of professionalism.



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SIPAT SUPER THERMAL POWER PLANT



PROJECT REPORT

as a part of

VOCATIONAL TRAINING, NTPC SIPAT 2024

So_x Control System in Power Plants

JULY 2024

Submitted By: - VTMECH Group 21

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VT-MECH-165	→	Reena Bhoy
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VT-MECH-192	→	Satyajit gochhayat
VT-MECH-193	→	Saurabh Nath Jh



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8.	Implementation & Innovations	→ 31-33
	<ul style="list-style-type: none"> • Steps for implementing SO_x control systems in power plants. • Operational procedures and maintenance requirements. 	



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Branch - MECH



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Date: 18/07/2024


Nakka Ramesh
Sr. Manager (RLI)


Anshul Rajan Singh
Sr. Manager (RLI)


AK Tripathi
GM & Head (RLI-Simulator)



VOCATIONAL TRAINING ➤ REPORT ➤

Mechanical Engineering GGV, Bilaspur
MAY-JUNE 2024



by

Rohit Kumar

VIIth Semester

21039173



VOCATIONAL TRAINING REPORT

on
Overhauling of Coaches and Wagons
at
South East Central Railway, Bilaspur





SOUTH EAST CENTRAL RAILWAY, BILASPUR



TO WHOM SO EVER IT MAY CONCERN

It is hereby certified that Mr. ROHIT KUMAR student of "Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) [A Central University]" has undergone 'Vocational Training at BCN Depot and Coaching Depot in Mechanical Engineering Department of SECR, Bilaspur Division from 16.05.2024 to 14.06.2024.

During this period of training he was very active. He has taken keen interest during the training period and has performed excellently. We wish him all success in his future endeavors.



Sr. Divisional Mechanical Engineer
South East Central Railway, Bilaspur

G. G. Prasad, Bilaspur



NTPC MONTHLY SIPAT

PROJECT REPORT



This report is made to deliver a few aspects of the project “**Steam Turbine Governing System**” that need to be evaluated thoroughly.



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Ref No. RLI/SIPAT/VT/CERT/2024/VT-MECH-204

THE CERTIFICATE IS AWARDED TO

Shiwani Baraik

Roll No - VT-MECH-204

MECH



Guru Ghasidas University, Koni, Bilaspur

For satisfactorily completing **Vocational Training at NTPC, Sipat, Bilaspur** for a period of four weeks from 10/06/2024 to 13/07/2024. The participant has successfully completed the course and has also completed the project assigned to him/her as part of this course. We wish him/her a bright and successful future. This Certificate is digitally signed.

Date: 18/07/2024

Ramesh

Nakka Ramesh
Sr. Manager (RLI)

Anshul

Anshul Rajan Singh
Sr. Manager (RLI)

AK

AK Tripathi
GM & Head (RLI-Simulator)



GURU GHASIDAS VISHWAVIDYALAYA BILASPUR, CHHATTISGARH

A CENTRAL UNIVERSITY
NAAC ACCREDITED A++ GRADE

DEPARTMENT OF MECHANICAL ENGINEERING
SCHOOL OF ENGINEERING AND TECHNOLOGY



A VOCATIONAL TRAINING
AT
SOUTHEAST CENTRAL RAILWAYS
SECR, BILASPUR, C.G.
DURING: 16.05.2024 TO 14.06.2024



SUBMITTED BY
SRIJAN DEWANGAN
ROLL NO. 21039159

SESSION 2023-2025

IN PARTIAL FULFILLMENT OF AWARD OF BACHELOR OF
TECHNOLOGY (MECHANICAL ENGINEERING)



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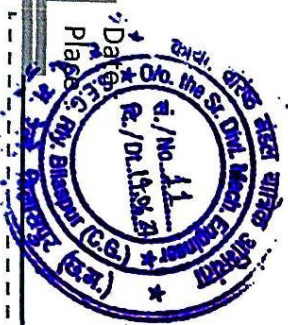
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TO WHOM SO EVER IT MAY CONCERN

It is hereby certified that Mr. SRIJAN DEWANGAN student of "GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR, CHHATTISGARH [A Central University]" has undergone Vocational Training at BCN Depot and Coaching Depot in Mechanical Engineering Department of SECR, Bilaspur Division from 16.05.2024 to 14.06.2024.

During this period of training he was very active. He has taken keen interest during the training period and has performed excellently. We wish him all success in his future endeavors.



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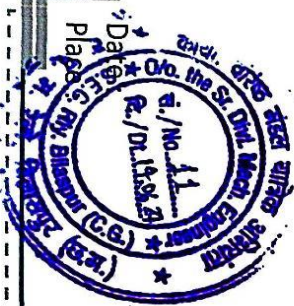
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**VOCATIONAL TRAINING REPORT
ON
MAINTANANCE OF COACHES AND WAGONS
AT**



**SOUTH EAST CENTRAL RAILWAY, BILASPUR
BY
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